

# SLR(K) Grammar

$S \rightarrow SaB$

$S \rightarrow C$

$B \rightarrow ab$

Input String

Caa baab

$S \Rightarrow SaB \Rightarrow Saab \Rightarrow SaB aab \Rightarrow Saab aab$   
 $\Rightarrow Caab aab$

| Caab aab

C | aab aab

S | aab aab

S a | aab aab

S a a | baab

S a a b | aab

S a B | aab

S | aab

S a | ab

S a a | b

S a a b |

S a B |

S |

~~Reduce~~ Shift

~~Shift~~ Reduce using rule 2

Shift

Shift

Shift

Reduce // // 3

Reduce // 1

Shift

Shift

~~Reduce~~ Shift

Reduce // // 3

Reduce // 1

End



## Stack Configuration

▽	caabab \$	Shift
▽ c	aabab \$	reduce using rule (2)
▽ S	aabab \$	Shift
▽ Sa	baab \$	Shift
▽ Saa	baab \$	Shift
▽ Saab	ab \$	<del>shift</del> reduce using rule (3)
▽ Sab	ab \$	<del>shift</del> reduce using rule (1)
▽ S	ab \$	Shift
▽ Sa	ab \$	Shift
▽ Saa	b \$	Shift
▽ Saab	\$	reduce using rule (3)
▽ Sab	\$	// // // (1)
▽ S	\$	Terminated

عن الإجابة في الامتحان هذه الطريقة

أو الطريقة السابقة



$S \rightarrow SaB$ 
 $S \rightarrow a$ 
 $B \rightarrow ab$ 

Input : aab

 $S \Rightarrow SaB \Rightarrow Saab \Rightarrow aaab$ 

| a a b

Shift

a | a a b

Shift/Reduce Conflict

S | a a b

Shift

S a | a b

Shift / Reduce Conflict

S a a | b

| a a a b

Shift

a | a a b

Shift

a a | a b

Shift

a a a | b

Sh

a a a b |

Reduce

a a B |

Syntax error !



$S \rightarrow SA$

$S \rightarrow a$

~~$A \rightarrow a$~~

$A \rightarrow a$

Input: aa

$\nabla$   
 $\nabla a$

aa \$

a \$

Shift

reduce/reduce Conflict  
rule (2, 3)

reduce using rule 2

using rule 3

$\nabla S$

a \$

Shift

reduce/n conflict

using rule (2, 3)

$\nabla A$

a \$

$\nabla Sa$

\$

$\nabla A a$

\$

use rule (2)

rule (3)

$\nabla SS$

\$

$\nabla SA$

\$

$\nabla AS$

Error

$\nabla AS$

Error

Error

$\nabla S$

reduce using rule (1)



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Viable prefixes

$$E \rightarrow T + E \mid T$$

$$T \rightarrow \text{int} * T \mid \text{int} \mid (E)$$

Stack rest of input string

( E )

Stack Configuration

• ( E )

no prefix

( • E )

( is prefix

~~( E ) is prefix~~

( E • )

( E is prefix

( E ) •

( E ) is prefix